UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,264	04/02/2001	Steve J. Shattil		1606

7590 08/21/2006

Steven J. Shattil
15 S. 33rd Street
Boulder, CO 80305

EXAMINER	
DEPPE, BETSY LEE	
ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/824,264	SHATTIL, STEVE J.	
	Examiner	Art Unit	
	Betsy L. Deppe	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-9,11-13,16 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5-9, 11-13, 16, and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed June 15, 2006 have been fully considered but they are not persuasive.

2. With regard to applicant's argument on page 11 that Cafarella et al. does not disclose a transmitter for coupling the spread information signal and the despreading signal into the wireless communication channel, Figure 8 discloses a RF amplifier (78) and an antenna (80) for coupling the spread information signal and the despreading signal into a wireless communication channel. (See also column 16, lines 4-5 and column 18, lines 47-50)

3. With regard to applicant's argument on page 12 that Whinnett et al. does not disclose the step of coupling the spread information signal and the despreading signal into the wireless communication channel, Figure 9 shows components 170, 96, 180, 140 and 100/102/104/106 for coupling the spread information signal and the despreading signal into a wireless communication channel. (See also column 10, lines 8-16)

4. With regard to applicant's argument on page 12 that Weekrackody does not disclose the step of coupling the spread information signal and the despreading signal

into the wireless communication channel, Figure 4 shows a transmission circuit (20) and an antenna (25) for coupling the spread information signal and the despreading signal into a wireless communication channel.

5. With regard to applicant's argument on page 12 that Hayashi does not disclose a transmitter configured for coupling the spread information signal and the despreading signal into the wireless communication channel, Figure 3 shows a composing section (209) and an antenna (1) for coupling the spread information signal and the despreading signal into a wireless communication channel.

6. With regard to claims 14, 15, 18 and 19, the applicant is reminded that the text of canceled claims should not be included. See 37 CFR 1.121(c)(4).

Claim Objections

7. Claims 7 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 7 and 13 do not further limit claims 1 and 8, respectively, since the recited limitations are identical to the limitation added to claims 1 and 8 as amended.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claims 16 and 17 recite "at least one of the spread spectrums signal" in claim 16, lines 8-9 and claim 17, lines 10-11. There is insufficient antecedent basis for this limitation in the claim since the respective claims have not recited more than one "spread spectrum signal."

11. Claim 16 recites the limitation "the decoding signal" in line 9. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 1, 2, 6-9, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Cafarella et al. (US Patent No. 5,809,060 cited in the Office Action mailed June 8, 2005).

14. With regard to claims 1 and 2, Figure 8 of Cafarella et al. discloses the claimed invention including generating a spread information signal (e.g. the output of 66 or 72)

and generating a despreading signal that is a noise signal (e.g. the output of 70). (See column 18, line 32-50) Furthermore, Figure 1 of Cafarella et al. shows duplicating the spread spectrum signal (26 and 28) thereby diversity-encoding at least one of the spread information signal and the despreading signal. Figure 8 also shows components 74, 78, and 80 for coupling the he spread information signal and the despreading signal into the wireless communication channel. (See also column 16, lines 4-5 and column 18, lines 47-50)

15. With regard to claim 8, Figure 8 of Cafarella et al. discloses the claimed invention including generating at least one information-bearing wideband signal (e.g. the output of 72) and generating at least one decoding signal (e.g. the output of 70). Furthermore, Figure 1 shows diversity encoding the information-bearing wideband signal wherein the step of diversity-encoding is performed by a communication channel. Figure 8 also shows components 74, 78, and 80 for coupling the he spread information signal and the despreading signal into the wireless communication channel. (See also column 16, lines 4-5 and column 18, lines 47-50)

16. With regard to claim 9, Figure 8 of Cafarella et al. discloses the claimed invention including a noise signal in the wideband signal. Generator 70 generates a noise signal which is combined with data outputted by data modulator 66 to produce the information-bearing wideband signal.

17. With regard to claims 6 and 12, Figure 8 of Cafarella et al. discloses the claimed invention including modulating the spread information signal (e.g. the output of 66) and

the despreading signal (e.g. output of 70) onto a carrier signal since it is inherent/implicit that a signal is modulated onto a carrier signal for transmission in a wireless system.

18. With regard to claims 7 and 13, Cafarella et al. discloses the claimed invention including coupling the spread information signal and the despreading signal into a communication channel. (See Figures 1, 3 and 8)

19. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Whinnett et al. (US Patent No. 6,317,411 B1 cited in the Office Action mailed February14, 2006). Figure 9 of Whinnett et al. discloses the claimed invention including generating a spread information signal (e.g. output of 92), generating a despreading signal (e.g. spreading code w_1w_1), and diversity encoding at least one of the spread information signal and the despreading signal wherein the step of diversity encoding includes transmitting from a plurality of spatially separated transmitters (e.g. 140, 100, 102, 104 and 106) wherein the spread information signal includes modulating at least one of a plurality of identical wideband signals with an information signal. Figure 9 also shows components 170, 96, 180, 140 and 100/102/104/106 for coupling the spread information signal and the despreading signal into a wireless communication channel. (See also column 10, lines 8-16)

20. Claims 1, 5, 8, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Weerackody (US Patent No. 5,289,499 cited in the Office Action mailed June 8, 2005).

21. With regard to claims 1 and 5, Figure 4 of Weerackody discloses the claimed invention including generating a spread information signal (e.g. b(n) or 10), generating a despreading signal (12), and diversity encoding diversity-encoding at least one of the spread information signal and the despreading signal wherein the step of diversity encoding includes transmitting from a plurality of spatially separated transmitters (T_1). (See column 6, line 48 - column 7, line 1) Figure 4 also shows a transmission circuit (20) and an antenna (25) for coupling the spread information signal and the despreading signal into a wireless communication channel.

22. With regard to claims 8 and 11, Figure 4 of Weerackody discloses the claimed invention including generating at least one information-bearing wideband signal (e.g. b(n) or 10), generating at least one decoding signal (12) and diversity encoding the information-bearing wideband signal wherein the step of diversity encoding includes transmitting from a plurality of spatially separated transmitters (T_1). Figure 4 also shows a transmission circuit (20) and an antenna (25) for coupling the spread information signal and the despreading signal into a wireless communication channel.

23. Claims 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayashi (US Patent No. 6,252,864 B1 cited in the Office Action mailed February14, 2006). Figure 3 of Hayashi discloses the claimed invention including a wideband signal generator configured to generate a plurality of wideband signals since it is implicit/inherent that there is a means for generating the spreading codes 11, 12, 21 and 22. Furthermore, Figure 3 of Hayashi discloses a modulator (e.g. 201) coupled to the

wideband signal generator for generating a spread spectrum signal and a diversity processor (e.g. 203 and 204) configured for adjusting at least one diversity parameter (i.e. antenna diversity). (See column 4, lines 17-62) Figure 3 also shows a composing section (209) and an antenna (1) for coupling the spread information signal and the despreading signal into a wireless communication channel.

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

25. Please note that this application is now assigned to Art Unit 2611.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Tuesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Betsy L. Deppe
Primary Examiner
Art Unit 2611